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Venequelan Equine Encephaliitis, Revisited

Editor's note: Thanks are extended to Dr. G. W. Beran for his editing and ideas for subject matter.

The events which led to the containment of Venezuelan Equine Encephalitis (VEE) as it was carried into southern Texas from Mexico in 1971 are a tribute to Dr. Habluetzel and the veterinary profession which has a responsibility to ensure the safety of the public from diseases which have their reservoirs in animals.

Dr. Jack E. Habluetzel (ISU '44), a veterinary practitioner at Ingleside, Texas, became a prime mover in halting the advance of VEE. Heeding the ominous warnings of researchers in the field concerning the rapid approach of VEE From South America, Dr. Habluetzel initiated preventive measures that the state health authorities seemed reluctant to give.

VEE was first described in Venezuela during an outbreak of disease in horses which occurred from 1936 to 1938. The first human fatalities associated with VEE were reported on the island of Trinidad in 1943; and in 1962-64, 32,000 human cases occurred in Venezuela with 190 fatalities. Since then the disease has struck periodically in Ecuador, Colombia, Guyana, and Peru. Over a 26-year period from its initial recognition, VEE infections extended gradually northward. In April, 1971, the disease surfaced in Tampico, Mexico, 250 miles south of the U.S. border.

Perhaps the seeming lethargy of the northward spread of VEE caused the health authorities to move slowly to activate an effective preventive medicine program. Not until July 7, 1971 were horse owners alerted to the impending danger and advised to immunize their horses. Matters were only made worse when a quarantine was placed on all horses in southern Texas, effectively preventing owners from moving their horses to clinics where they could be vaccinated.

By mid-July, three human cases of VEE were confirmed in Brownsville, at the southern-most tip of Texas, and more than 500 equine cases had been reported in that area.

Signs in horses appeared 2 to 10 days post-infection, and began with anorexia, high fever (102-106°) and depression. This sometimes progressed to diarrhea, staggering, blindness and stupor. The disease was fatal in 40% to 80% of animals experimentally infected.

Dr. Habluetzel had been pressing the health authorities to supply his area with vaccine since the danger of VEE had first become apparent. The vaccine available was a modified live strain of VEE virus developed by the Department of Defense to protect against human infections, but it had been successfully used in South America and Mexico to immunize horses at high risk. The vaccine was not being distributed, however, because the authorities had hoped the progress of the virus would be halted in southern Texas by the quarantine. However, because the infectious virus was being transmitted by mosquitoes, phlebotomine flies and aerosol, the quarantine had been ineffective. Vaccination of horses where they were stabled was difficult and highly inefficient. The horse owners agreed, as many broke the quarantine to trailer their horses to Dr. Habluetzel's clinic. Finally, on July 19 the Texas Animal Health Commission lifted its quarantine.

During the 1971 epidemic, the U.S. government emergency program coordinated the vaccination of 2,854,191 horses in six southern states. Air Force planes and private aircraft were employed to spray malathion in 22 counties in the Coastal Bend of Texas and two parishes in Louisiana as part of a vector control program. The U.S. supplied 200,000 doses of horse vaccine to the Mexican government. Twenty-three people had contracted VEE in Texas.

No cases in horses were documented in the U.S. during 1972. Two human cases reported in California resulted from exposure in Mexico. No human or animal cases were reported in the U.S. from 1973 to 1976.

VEE is still a reportable disease in the U.S., however, the difficulty of distinguishing this disease from other equine encephalitides (EEE and WEE) makes complete detection difficult. Vaccination with the attenuated TC-83 strain of VEE virus is recommended in the U.S., Mexico and Central America.

REFERENCE

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